

Investigating the properties of strips...

S/137/62/000/003/065/191
A006/A101

mechanical properties of non-porous strips.

R. Andriyevskiy

[Abstracter's note: Complete translation]

Card 2/2

18.8100

1.1600

37569

S/226/62/000/001/006/014

1003/1201

Author: Katrus, O. A., Fedorchenko, I. M. and Vinogradov, G. A.

Title: INVESTIGATION OF THE MAGNETIC PROPERTIES OF IRON POWDER STRIPS

Periodical: *Poroshkovaya metallurgiya*, no. 1(7), 1962, 37-44

Text The porosity substantially affects the value of the coercive force. An increase in porosity by 2% increases the coercive force by approximately 0.1 oersted. When iron strips with a 25% porosity are sintered at 1200°C in an atmosphere of hydrogen having a dew point of -30°C, they lose all their carbon and oxygen, while sintering at lower temperatures (1000-1100°C) decreases the carbon content to 0.03-0.02% leaving the amount of oxygen unaltered. The kinetics of grain growth of poreless iron powder strips is similar to that of coarse-grained steels. The magnetic properties of poreless iron powder strips pre-sintered at 1200°C and above and finally heat-treated at 900-1000°C meets the ГОСТ 3836-47 (GOST 3836-47) requirements for low-carbon electrical grade sheet. There are 4 tables and 4 diagrams. English language reference: E. V Walker I. Howard, Iron and Steel Institute, V. 194 part I, 1960. ✓

Association: Institut metallokeramiki i special'nykh splavov AN UkrSSR (Institute of Powder Metallurgy and Special Alloys AS UkrSSR)

Submitted: September 21, 1961

Card 1/1

KATRUS, O.A.; VINOGRADOV, G.A.

Three-layer copper-iron-copper strips manufactured from powders
Porosh.met. 2 no.5:60-67 S-0 '62. (MIRA 15:11)

1. Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR.
(Metal powder products) (Laminated metals)

S/126/62/014/001/014/018
E073/E135

AUTHOR: Katrus, O.A.

TITLE: On the dependence of the coercive force on the sheet thickness of magnetically soft materials produced by rolling of powders

PERIODICAL: Fizika metallov i metallovedeniye, v.14, no.1, 1962, 137-139

TEXT: Poreless strips 0.45-0.55 mm thick were produced by rolling carbonyl powder, reduced nickel powders, iron powder obtained by reducing scale and 65-permalloy powder. The strips were rolled on a four-high stand with rolls of 40 mm diameter. A 50-70% reduction was followed by annealing at 750-800 °C in hydrogen for one hour. Prior to measuring (with an accuracy of $\pm 3\%$) the coercive force, the specimens were annealed in hydrogen at 1000 °C for two hours. The curves obtained for all enumerated materials are similar: virtually no change in the coercive force was observed for thicknesses down to 90-100 microns; a continuous increase when the thickness decreases from
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On the dependence of the coercive... S/126/62/014/001/014/018
E073/E135

90-100 microns to 30-40 microns; and a very sharp increase with decreasing thickness below 30-40 microns. The results indicate that the dependence of the coercive force on the thickness is general, regardless of how the material is produced, but is less pronounced for strips produced by rolling of powders. There are 1 figure and 1 table.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov
AN USSR
(Institute of Cermets and Special Alloys,
AS Ukr.SSR)

SUBMITTED: November 28, 1961

Card 2/2

S/226/63/000/002/005/014
A006/A101

AUTHOR: Katrus, O. A.

TITLE: Activated sintering of magnetic-soft iron

PERIODICAL: Poroshkovaya metallurgiya, no. 2, 1963, 38 - 42

TEXT: The appearance of coercive force in cermet-iron was the main problem of the investigation. The following experiments were performed: determining the effect of optimum concentration of P and Sb admixtures upon the magnetic properties; determining the effect of optimum temperature in pre-sintering upon the final physico-chemical properties of poreless strips; investigating as to of specimens alloyed with P. Iron powder reduced from APKM (APKM) sinter was employed. The specimens contained 1 - 6% Sb, and 0.25, 0.50, 0.75, 1.00, 1.25, and 1.50 weight % P. The powders were dried, annealed and rolled. Strips with phosphorus were sintered at 1,100 and 1,200°C during 1 - 2 hours and strips with Sb at 1,200°C during 2 and 3.5 hours. The optimum amounts of alloying elements were 0.5 - 0.75% P and 5 - 6% Sb. Additional pressing and compression rolling of specimens with optimum amounts of alloying elements do not entail an increase

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S/226/63/000/002/005/014
A006/A101

Activated sintering of magnetic-soft iron

in the magnetic properties, since the alloying effect is probably connected with an intensified sintering process (shrinkage, intensive pore spheroidizing). Changes in the coercive force were determined in specimens alloyed with P during aging at 600 and 300°C. Specimens without P were rolled until poreless state. The absence of the aging effect in phosphorous iron is probably connected with the fact, that no phosphide is singled out during transition over the solubility limit, and ferrite sections with higher P content are formed. This assumption, advanced by E. Gudremon, was confirmed by microstructural investigations. The results obtained show the possibility of simultaneous proceeding of refining, grain growth, and volume shrinkage during the appearance of magnetic-soft properties in iron alloyed with P and Sb. There are 5 figures.

ASSOCIATION: Institute metallokeramiki i spetsial'nykh splavov AN USSR (Institute of Cermets and Special Alloys, AS UkrSSR)

SUBMITTED: April 22, 1962

Card 2/2

KATRUS, O.A.; VINOGRADOV, G.A.

Three-layer strips, copper-iron-copper made of powders. Trudy
LPI no.222:58-63 '63. (MIRA 16:7)
(Powder metallurgy) (Laminated metals) (Rolling (Metalwork))

KATRUS, O.A.

Activated sintering of magnetically-soft iron. Trudy LPI no.222:
77-78 '63. (MIRA 16:7)
(Sintering) (Metal powders--Magnetic properties)

ITEM 8. Investigation of the properties of semifinished products produced by

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721120012-5

Card

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721120012-5"

KATRUC, O.A.; VINOGRADOV, G.A.

Calculating the minimum speed of powder rolling. Porosh. met. 5
no.4:9-12 '65. (MIRA 18:5)

1. Institut problem materialovedeniya AN UkrSSR.

KATRUS, O.A.; VINOGRADOV, G.A.

Manufacturing electrodes by powder rolling. Porosh. met. 5
no.9:28-33 S '65. (MIRA 18:9)

1. Institut problem materialovedeniya AN UkrSSR.

L 18875-66 EPF(n)-2/EWP(k)/EWT(m)/ETC(f)/EWG(m)/T/EWP(t)/ZWP(e) 1JP(c)

ACC NR: AP5022542 DS/JD/EW/JG

SOURCE CODE: UR/0226/65/000/009/0028/0033

AUTHOR: Katrus, O. A.; Vinogradov, G. A.

ORG: Institute of Problems of Science of Material, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR)

77

TITLE: Experience in manufacturing electrodes by rolling powders

B

SOURCE: Poroshkovaya metallurgiya, no. 9, 1965, 28-33

TOPIC TAGS: metal powder, electrode ~~potential~~, wear resistant alloy, metal surfacing, *metal rolling, die*

ABSTRACT: The technology of manufacturing electrode strips for mechanized surfacing of machine parts by a wear resistant aging alloy Fe-Co-Mo has been worked out. Plant tests of cut dies built up by means of these electrodes in accordance with the technology elaborated by the Institute of Electric Welding im. Ye. O. Paton of the Academy of Sciences UkrSSR, gave good results. Orig. art. has: 5 figures and 1 table. [Based on author's abstract.]

[NT]

SUB CODE: 09,13,11/CJEM DATE: 15Jun64/ ORIG REF: 001/

Cord 1/1

L 10042-66 EWP(k)/EWT(m)/EWP(e)/EWP(t)/ETI LIP(c) WH/JD

ACC NR: AP6017106

(N)

SOURCE CODE: UR/0226/66/000/001/0081/0084

AUTHORS: Katrus, O. A.; Kovalev, S. N.; Vonogradov, G. A.; Bernik, Ye. B.

37
B

ORG: Institute for Problems of Materials Behavior, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR); Ukrainian Scientific Research Institute for Super-Hard Materials (Ukrainskiy nauchno-issledovatel'skiy institut sverkhтверdykh materialov)

TITLE: Manufacture of a diamond tool by powder rolling

SOURCE: Poroshkovaya metallurgiya, no. 1, 1966, 81-84

TOPIC TAGS: abrasive, diamond, powder metal compaction, *hard tool*

ABSTRACT: A method for manufacturing a diamond abrasive tool by hot rolling diamond and bronze powders is described. The effect of rolling temperatures on the abrasive stability of the tool was investigated. Hot rolling at 730--750C increases the stability of the tool by 4--5 times compared with the stability achieved by cold rolling. A photograph of the tool is presented. It is concluded that hot rolling diamond and metal powders offers good possibilities for the manufacture of diamond abrasive tools. Orig. art. has: 1 photograph.

SUB CODE: 3,11/

SUBM DATE: 01Jun65/

ORIG REF: 005/

OTH REF: 001

Card 1/1 *gl*

L 41635-66 EWT(m)/EWP(e)/EWP(w)/T/EWP(t)/ETI/EWP(k) IJP(c) JD/HW

ACC NR: AP6007284

SOURCE CODE: UR/0226/66/000/002/0031/0039

AUTHOR: Katrus, O. A.

ORG: Institute of Material Science Problems, AN UkrSSR (Institut problem materialo-vedeniya AN UkrSSR)

TITLE: Some problems of sintering and compacting rolled stock from powders

SOURCE: Poroshkovaya metallurgiya, no. 2, 1966, 31-39

TOPIC TAGS: powder metallurgy, powder metal compaction, powder metal sintering, metallographic examination, *porosity*

ABSTRACT: Some general principles are developed for the sintering and compacting of rolled stock made from Cu, Ni and Fe powders. Rolled strips with 20-25% porosity were sintered in hydrogen for 10 and 30 min at 0.7-0.85 of the melting temperature. After sintering the rolled stock to a porosity of 2-6%, the samples were annealed at 850°C for 30 min. Upon annealing, blistering occurred on the surfaces of Ni and Cu strips as a result of incomplete reduction of oxides during sintering. These blisters closed up easily after skin rolling but reappeared if annealed. In rolled Ni and Cu strips compacted to a final porosity less than 10%, blisters appeared upon sintering in hydrogen. The compacting process was analyzed phenomenologically and the % reduction $\Delta H/H_0$ was given by the equation:

$$\frac{\Delta H}{H_0} = \mu_n \cdot 2 \cdot \frac{HH_0 - H^2}{H_0^2}$$

Card 1/2

L 41635-66

ACC NR: AP6007284

where μ_p is the coefficient of extension of the porous material, z is the degree of compacting, H_0 is the initial sample thickness and H is the final sample thickness. The relationship between the degrees of compacting and extension for changes in $\Delta H/H_0$ were determined by the changes of principal stress on the arc content of porous material with the roll. The changes in density and μ_p are given as functions of $\Delta H/H_0$ % for compacting of Fe and Cu on 40 and 150 mm diameter rolls. For similar $\Delta H/H_0$ % and for different starting densities, the density of compacted strips was always greater for the 150 mm roll. By decreasing the compacting speed the metals increased in density and strength. The structural changes obtained during roll-compacting were studied. The changes in pore diameter and density were given for $\Delta H/H_0$ values of 42, 75 and 92.5%. Microstructures were shown of the original and compacted conditions of Fe powder for the above values of $\Delta H/H_0$ and after annealing at 1200°C for 2 hrs. In samples of carbonyl Ni and Fe, almost zero porosity was observed after deforming 75-80% and annealing at 900°C for 2 hrs. The tensile strength of Fe strips was given as a function of $\ln \omega_0/\omega_f$ for different processing conditions, where $\omega_0/\omega_f \cdot z = \mu_p$. The results agreed with theoretical equations derived by I. N. Prantsevich and M. Yu. Bal'shin. Orig. art. has: 6 figures, 1 table, 4 equations.

SUB CODE: 11/

SUBM DATE: 01Jun65/

ORIG REF: 006/

OTH REF: 004

Card 2/2 af

KATRU SH, R.V.

~~Improving the preliminary refining of petroleum. Neft. i gaz prom.~~
no.4:55-56 O-D '63. (MIRA 17:12)

1. Ukrainskiy sovet narodnogo khozyaystva.

KATRUSHENKO, A. G., ROGOZIN, I. I., and KRYKOV, V. N.

Physiological Fundamentals of the Vaccinal Process. Voenno-meditsinskiy Zhurnal, No 1, p 48, 1955.

ACC NR: AP7003917

SOURCE CODE: UR/0239/67/053/001/0123/0124

AUTHOR: Katrushenko, A. G.; Yushkin, A. A.

ORG: Department of Comparative Physiology and Pathology, Institute of Experimental Medicine, AMN SSSR, Leningrad (Otdel sravnitel'noy fiziologii i patologii Instituta eksperimental'noy meditsiny AMN SSSR)

TITLE: Technique for investigating the effect of ionized air and electrical fields on animals

SOURCE: Fiziologicheskiy zhurnal SSSR, v. 53, no. 1, 1967, 123-124

TOPIC TAGS: animal experiment, ^{ionized gas} ~~aeroionization~~, electric field, ^{electromagnetic} ~~electromagnetic~~ bio-logic effect, ~~radio~~ ^{ionizing radiation} ~~biologic effect~~

ABSTRACT: A technique is proposed for conducting physiological experiments on animals to study the effect of ionized air and electrical fields under controlled physical conditions. The technique employs the principle of hemispherical shielding chambers in the center of which is a generator which produces an equipotential field in the experimental chambers. The components of the system for studying the effect of aero-ionization and electric fields on small animals are shown in Fig. 1. Orig. art. has: 1 figure.

Card 1/2

UDC: 615.847(018)

ACC NR: AP7003917

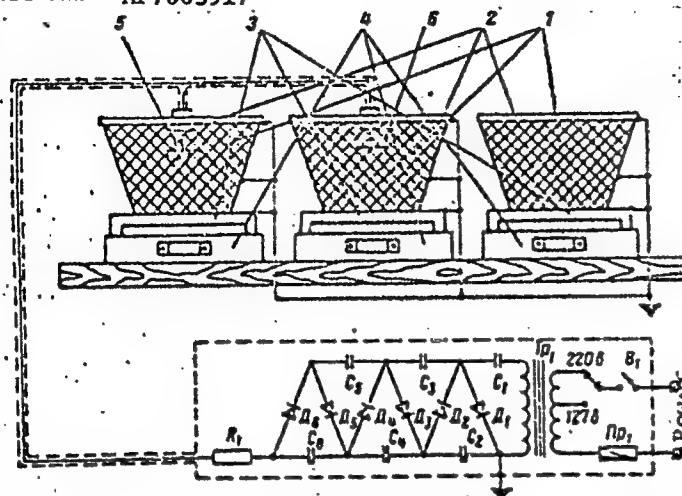


Fig. 1. Diagram of a system for studying the effects of aeroionization on small animals

- 1 - Wire cages; 2 - steel tops;
- 3 - raised wire platforms;
- 4 - litter trays; 5 - Air-2 aeroionizer; 6 - disc electrode. [26]

SUB CODE: 06/ SUBM DATE: 30Jul65/ ATD PRESS: 5117

Card 2/2

Katrushenko, I. N.; Klyachkin, L. M.; Pilyushin, P. V.; Pinchuk, V.P.;
Molchanov, N. S.; Kuznetsova, V. P.--Leningrad

"Functional Disturbances and Morphological Changes of Internal Organs in
Burn Disease."

report submitted for the 27 Congress of Surgeons of the USSR, Moscow, 23-28 May 1960.

KATRUSHENKO, I.V.

Photosynthetic adaptation to light in the perennial needles of
the young growth of the spruce *Picea abies* (L.) Karst. Bot.
zhur. 50 no.8:1119-1120 Ag '55. (MIRA 18:10)

1. Laboratoriya lesovedeniya AN SSSR, selo Uzenskoye.

KATRUSHENKO, I.V.

Potential intensity of the photosynthesis of a young spruce growth
under various light conditions. Bot. zhur. 50 no.1:91-95 Ja '65.
(MIRA 18:3)

1. Laboratoriya lesovedeniya, Moskovskaya oblast', selo Usen-
skoye.

KLYACHKIN, L.M.; KATRUSHENKO, R.N.; YAKOVLEV, V.A.; GRIB, V.P.

Changes in the hemodynamics in burn disease. Vest. AMN SSSR.
18 no.10:9-15 '63. (MIRA 17:6)

1. Voenno-meditsinskaya ordena Lenina akademiya imeni Kirova.

KLYACHKIN, L.M., kand.med.nauk (Leningrad, D-28, Liteynyy pr., d.26,
kv.562); PINCHUK, V.M., kand.med.nauk; KHREBTOVICH, V.N.;
KATRUSHENKO, R.N.

Burns of the respiratory tract. Vest.khir. 89 no.11:41-48 N '62.
(MIRA 16:2)

1. Iz kafedry termicheskikh porazheniy (nachal'nik - prof. T.Ya.
Ar'yev) i nauchno-issledovatel'skoy ozhogovoy laboratorii (nachal'-
nik - doktor med.nauk Ye.V. Gu'ler) voyenno-meditsinskoy ordena
Lenina Akademii imeni S.M. Kirova (nauchnyy rukovoditel' - prof.
N.S. Molchanov).

(BURNS AND SCALDS)

(RESPIRATORY ORGANS—WOUNDS AND INJURIES)

LEDYASHOV, O.A.; KATRYSHYEV, I.Ye.

Variation in the indices of the simultaneous operation of a pump and a turbodrill turbine when using heavy muds. Izv.vys. ucheb.zav.; neft' i gaz 7 no. 1:17-22 '64. (MIRA 17:7)

1. Groznenskiy neftyanoy institut.

KATS, A.; SHMILOVICH, E.

Modernization of the 4000M automatic loader. Mor. flot 25 no.4:
15-16 Ap '65. (MIRA 18:6)

1. Rukovoditel' gruppy otdela portovoy mekhanizatsii TSentral'nogo
proyektno-konstruktorskogo byuro-3 (for Kats). 2. Starshiy inzh.
garazha avtopogruzchikov Odesskogo porta (for Shmilovich).

KATS, A.

Economic theory and the use of mathematics in economics. Vop.
ekon. no.11:92-103 N '60. (MIRA 13:11)
(Economics, Mathematical)

KATS, A.; KRICHEVSKIY, I.; RAYMAN, R. (Kiyev)

Vending machine for selling milk in glasses. Sov. torg. 33 no.5:
44-46 My '60. (MIRA 13:11)

(Kiev--Vending machines)

KATS, A.

Incompatibility of the category of average profit with a
socialist economy. Vop.ekon. no.4:59-71 Ap '61. (MIRA 14:3)
(Profit)

KATS, A., kand.tekhn.nauk

Drying painted surfaces by heat radiation. Avt.transp. 40 no.2:
30-32 F '62. (MIRA 15:2)

(Motor vehicles--Painting)

KATS, A., inzh.

New tasks for calculating machine units. NTO 3 no.12:28-30
D '61. (MIRA 15:1)

(Calculating machines)

DVOYEGLAZOV, B.; SHMILOVICH, E., gruppovyy mekhanik po remontu; KATS, A.,
gruppovyy mekhanik po remontu

Reply to Novorossiisk mechanizers. Mor.flot 22 no.12:45 D '62.
(MIRA 15:12)

1. Zamestitel' nachal'nika rayona po mekhanizatsii Odesskogo
porta (for Dvoyeglazov).
(Cargo handling--Equipment and supplies)

KATS, A.

Comparison of the industrial labor productivity of the Soviet
Union and the principal capitalist countries. Stat szemle
37 no.6:587-601 Je '59.

COMMON ELEMENTS										PROCESSING AND PROPERTIES INDEX										STANDARD AND OTHER INDEX									
KATIS, A-B																				19									
CP										<p>The technique of finishing saddle-leather yacht substitutes. A. B. Katis. <i>Koskovskaya-Obshtina</i> From. S. S. S. R. 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 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831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1010, 1011, 1012, 1013, 1014, 1015, 1016, 1017, 1018, 1019, 1020, 1021, 1022, 1023, 1024, 1025, 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15-1957-7-9266

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 7,
p 69 (USSR)

AUTHOR: Kats, A. G.

TITLE: The Volcanic Deposits of the Southern Border of the
Aldanskiy Shield (Ob effuzivnykh pokrovakh yuzhnoy
okrainy Aldanskogo shchita)

PERIODICAL: Tr. Vses. aerogeol. tresta, 1956, vol 2, pp 167-168

ABSTRACT: Young volcanic rocks have been found along the north-
ern border of the Tokarikan River depression at the
Gonam tributary. The rocks are divided into two units:
the lower consists of leucocratic plagioclase porphy-
rites and biotite-hornblende porphyrites; the upper
contains uniform felsites and quartz porphyrites.
Fine-grained crystal tuffs are present in the se-
quence. The total thickness is 320 m. These rocks
were formerly considered to be hypabyssal stocks in-
truded into Middle and Upper Jurassic deposits. Their

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15-1957-7-9266

The Volcanic Deposits of the Southern Border of the Aldanskiy
Shield (Cont.)

volcanic nature and their position on top of the Jurassic
rocks are now clearly established. Their age has been deter-
mined provisionally as Upper Jurassic-Lower Cretaceous.

Card 2/2

S. P. Bryzgalina

AUTHORS: Arkhangel'skaya, V.V., and Kats, A.G. SOV/12-90-6-6/23

TITLE: The Annular Mountain Range "Konder" (Kol'tsevoy khrebet Konder)

PERIODICAL: Izvestiya vsesoyuznogo geograficheskogo obshchestva, 1958, Vol 90, Nr 6, pp 537 - 541 (USSR)

ABSTRACT: In the Uchuro-Mayskiy Rayon, Amur Oblast', between the valleys of the Rivers Maya and Omya (the right tributary of the River Aim), above the low swamped flat top mountains of the Aldan Plateau, rises the bare mountain of the Konder mountain range - one of the most interesting and peculiarly shaped forms of the relief of this region. The mountain was explored for the first time in 1936 by B.P. Kulesh, then in 1940 by A.K. Matveyev. There is no information on it in published literature. In 1956, the authors conducted geological research on and around the mountain. Some of the results are set forth in this article. They describe the outer appearance of the mountain range forming the mountain, and the deep crater-like hollow within the range. The depression is drained by the "Konder" River, which is formed by the confluence of numerous springs. The river

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The Annular Mountain Range "Konder"

SOV/12-90-6-6/23

flows through the hollow in a meridional direction. The authors outline the geological structure of the range. In its positive form of relief, the mountain has undoubtedly risen because of endogenous factors. The aggregate of all the factors mentioned in the article caused the present morphology of this mountain "Konder". There are 1 photo, 1 geological chart and 2 Soviet references.

Card 2/2

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Archean stratigraphy of the southwestern part of the Aldan Shield.
Trudy VAGT no.8:90-92 '62. (MIRA 15:11.)
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fondo-produktsiia. Moskva, Ekonomika, 1964. 157 p. (Ob-
suzhdaem problemy sovershenstvovaniia planirovaniia, no.8)
(MIRA 17:12)

NESTEROV, A.I., podpolkovnik meditsinskoy sluzhby; KATS, A.I., podpolkovnik
meditsinskoy sluzhby, kandidat biologicheskikh nauk

Sectional field rack for blood ampullae. Voen.-med. zhur. no.10:
82 0 '55. (MIRA 9:10)
(BLOOD--TRANSFUSION)

~~KATS, A.I.~~, podpolkovnik meditsinskoy sluzhby, kandidat biologicheskikh nauk;
HESTEROV, A.I., podpolkovnik meditsinskoy sluzhby

Apparatus for checking the air in blood transfusions. Voen.-med.shur.
no.9:87-88 S '56. (MLRA 10:3)
(BLOOD-TRANSFUSION) (PHYSIOLOGICAL APPARATUS)

KATS, A.I., podpolkovnik meditsinskoy sluzhby, kand.biologicheskikh nauk

Protective cover for a bandaged wound; abstract. Voen.-med.zhur.
no.3:80 Mr '61.

(MIRA 14:7)

(BANDAGES AND BANDAGING)

KATS, A.L., inzhener.

~~Using small-sized weak current devices for automatic control of~~
production processes. Vest. elektroprem. 28 no.3:35-38 Mr '57.

(MIRA 10:4)

1. Tyazhpromelektroproyekt.
(Automatic control)

KATS, A.L.

Concerning the article of L.A.Vitel's "Group characteristics
of analogues." Meteor. i gidrol. no.4:38-43 '48.(MLRA 8:2)
(Weather forecasting)

KATS, A. L.

"Change in the Direction of Air Mass Transfer in the Troposphere With the
Change of Natural Synoptic Periods," Meteorology and Hydrology, Issue No. 4,
Leningrad, December 1950.

KATS, A. L.

0

Kats, A.L.

Forecasts of weather a short time (with diagrams & bibliography) ahead
Prognozui Pogodui maloi zablagovremennosti
Gidrometeoizdat, Leningrad

1950, 75

British Museum Library

From: D.S.I.R. Trans. can. list of R.-Per. No. 33, Dec. 1951, p. 105
Brit. Museum Lib., Dept. of Printed books, North Library, Brit. Museum
Lib.

KATS, A. I.

"Problem of the Determination of the Boundaries of Natural Synoptic Periods, "
Meteorol. i gidrologiya, No 10, 1953, pp 36-39

The author presents a number of definitions of the natural synoptic period (NSP), beginning with V P. Mul'tanovskiy's Osnovnyye polozheniya sinopticheskogo metoda dolgoerochnykh prognozov pogody, Ch. I. (Fundamental Positions of the Synoptic Method of Long-Range Weather Forecasting, Part I), TsUYeGMS, Moscow, 1933, and briefly reports on the results of investigation of the problem of NSP up to 1953. The author notes that on the basis of the definition of S. T. Pagava (Trudy NIU GUGMS, Ser. II, No 20, 1946) in the Central Institute of Forecasting the duration of the average, this duration amounts to 6 days; here periods of duration from 5 to 7 days are observed in 92.5% of all the cases. Preservation of fields of stable monotypical circulation in the NSP is not always due to the conservation of an individual baric formation; therefore it is necessary correspondingly to review the earlier given recommendations for the establishment of the boundaries of NSP. In operations it is impossible to disregard even those criteria for the determination of the boundaries of the NSP which in individual cases are correct but not universal, and which were obtained in the process of many years' development of a procedure for long-range forecasting of small beforehandness (zablagovremennost'). (RZhGeol, No 5, 1954)

SO: Sum No. 568, 6 Jul 55

KATS, A.L.

AID P - 1859

Subject : USSR/Meteorology and Hydrology

Card 1/2 Pub. 71-a - 2/26

Author : Kats, A. L., Kand. of Geographical Science

Title : Quantitative characteristics of horizontal components of the general circulation of the atmosphere in the northern hemisphere

Periodical : Met. i gidro., no.2, 7-12, 1955

Abstract : The author studies the intensity of the circulation of air masses at different levels with equations and tables and concludes that meridional circulation depends upon the temperature gradient between the ocean and the continent as zonal circulation depends upon the temperature gradient between the equator and the pole. The maximum intensity of meridional circulation is found in the lower troposphere and increases toward the north, with a maximum in the areas between 30 and 50° northern latitude 6-10 km above the earth level. Three diagrams are given. One Russian reference, dated 1954.

KATS, A.L.; TYURINA, K.L.

~~Classification~~
Circulation characteristics of the 1953/54 winter. Meteor. i gidrol.
no.1:25-29 Ja '56. (MIRA 9:6)
(Atmosphere)

KATS, A.L.

8.3-180

PHASE I BOOK EXPLOITATION

361

Moscow. Tsentral'nyy institut prognozov.

Trudy. vyp. 49: Voprosy dologosrochnykh prognozov (Transactions.
v. 49: Problems in Long-range Forecasting) Leningrad,
Gidrometeoizdat, 1957. 287 p. 1,250 copies printed.

Sponsoring Agency: Glavnoye upravleniye gidrometeorologicheskoy
sluzhby pri Sovete Ministrov SSSR.

Ed.: (title page); Morskoy, G.I.; Ed. (inside book):
Shatilina, M.K.; Tech. Ed.: Braynina, M.I.

PURPOSE: The collection of articles is intended for specialists
in the field of weather forecasting, especially those
interested in long-term prognostication.

COVERAGE: The articles in this collection illustrate the present
position of long-range weather forecasting. The problems
discussed include the formulation of large mid-monthly

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temperature anomalies, the analysis of cycles and anti-cyclogenesis in meridional circulation and factors causing the appearance of autumnal frosts together with possibilities for forecasting them.

TABLE OF
CONTENTS:

Morskoy, G.I.; Semenov, V.G.; and Kats, A.L. Formation of
Air Temperature Anomalies on Soviet Territory in the
Winter Months

3

The authors define the term anomaly (or a larger anomaly) as a departure from a certain average climatological pattern, or, in other words, from the average temperature during a given period. The authors survey the occurrence of mean temperature anomalies during three winter months (December, January, and February) and analyze possibilities of forecasting such anomalies for one month in advance. In general, wide departures

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from average temperatures are believed to be caused by disturbances in the interrelationship between air circulation and thermal conditions at the surface layer of the atmosphere. The entire article is divided into three chapters each treating one separate factor causing the occurrence of anomalies. In the first chapter, G.I. Morskoy states that the horizontal transfer of air masses is the main factor in the formation of average temperature anomalies. He also deduces the ratio between the zonal circulation of the atmosphere and the general thermal conditions of the atmosphere. The author suggests a new mathematical approach in calculating the mean monthly temperature anomalies for absolute topography at the 500 millibar level. In Chapter 2, V.G. Semenov analyzes the influence of the surface layer of the atmosphere on the transfer of air masses and how this transfer causes the occurrence of anomalies. In the third chapter, A.L. Kats surveys the meridional and latitudinal circulation of the atmosphere and evaluates the contribution

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PHASE I BOOK EXPLOITATION

SOV/1232

Kats, Abram L'vovich

Predskazaniye pogody na tri-sem' dney (Forecasting Weather for Three to Seven Day Periods) Leningrad, Gidrometeoizdat, 1958. 131 p. 3,000 copies printed.

Ed.: Sagatovskiy, N.V.; Tech. Ed.: Soloveychik, A.A.

PURPOSE: The book is intended primarily for synopticians and meteorologists, but may be useful to anyone interested in weather forecasting problems.

COVERAGE: The author presents and discusses the systematized scientific principles developed during the last few years in the USSR for forecasting weather 3-7 days in advance. The present booklet is an enlarged and improved edition of a brochure entitled Prognozy pogody maloy zablagovremennosti (Short-range Weather Forecasting), published in 1950. No personalities are mentioned. The text contains 32 maps, 3 tables, and 65 bibliographic references, 56 of which are Soviet, 3 German, and 5 English.

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Forecasting Weather for Three (Cont.)

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Forecasting the general character of a baric field for the remaining days of a current synoptic period	73
Using the average three-level map	76
Forecasting the development of baric formations during a synoptic period	78

Card 3/4

SOV/137-58-11-23808

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 11, p 276 (USSR)

AUTHORS: Zhdanov, A. K., Khadeyev, V. A., Kats, A. L.

TITLE: Amperometric Titration of Trivalent Iron With Ascorbic Acid and Sodium Versenate B (Amperometricheskoye titrovaniye trekhvalentnogo zheleza askorbinovoy kislotoy i trilonom B)

PERIODICAL: Uzb. khim. zh., 1958, Nr 1, pp 27-34

ABSTRACT: More precise procedures are given for titrating Fe^{3+} with ascorbic acid (I) and sodium versenate B (II). The experiments were carried out on an ordinary visual polarographic apparatus with a revolving Pt microelectrode. - It is shown that the titration of Fe^{3+} with I can be carried out within a broad range of acidity up to $pH \approx 0$. The optimum concentration of acid is 0.28 - 1 mole/liter. The lowest rate at which equilibrium is attained was observed close to the point of equivalence. The presence of air O_2 has no effect on the results of titration of Fe^{3+} with I. Small amounts of Fe titrate better than large amounts. The optimum condition leading to the titration of Fe^{3+} with II is an acidity of 0.1 mole/liter HCl, overrated results are produced at a higher acidity. Titration of small amounts of Fe is best done in the presence

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Amperometric Titration of Trivalent Iron With Ascorbic Acid and (cont.)

of an acetate buffer. A study of the effect of foreign ions showed that the results of the titration of Fe are affected by Ni and Cu and impeded by Zn and Cd only when their amount is 10-20 times higher than the Fe contents. A comparison is made between the ascorbic acid and the chelatometric methods of the titration of Fe as to their precision, reproducibility, and selectivity, as well as speed and convenience.

Yu. B.

Card 2/2

KATS, A.L.

p. 2

PHASE I BOOK EXPLOITATION

SOV/3794
SOV/49-M-74

Moscow. Tsentral'nyy institut prognozov

Voprosy dolgosrochnykh prognozov pogody (Problems in Long-Range
Weather Forecasting) Moscow, Gidrometeoizdat, 1959. 72 p.
(Series: Its: Trudy, vyp. 74) 800 copies printed.

Sponsoring Agency: USSR. Sovet Ministrov. Glavnoye upravleniye
gidrometeorologicheskoy sluzhby.

Ed. (Title page): N.A. Bagrov; Ed. (Inside book): V.I. Tarkhunova;
Tech. Ed.: I.M. Zarkh.

PURPOSE: The publication is intended for scientific workers, employees
of the weather forecasting service, and students of hydrometeorologi-
cal institutes and universities.

COVERAGE: This is a collection of 7 articles dealing with the problem
of long-range weather forecasting. Some articles contain specific
recommendations for charting monthly or mean-range forecasts,
and others deal with the theoretical problems of weather forecastin
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Problems in Long-Range (Cont.)

No personalities are mentioned. References are given at the end of each article.

TABLE OF CONTENTS:

Bagrov, N.A. Analytical Representation of the Sequence of Meteorological Fields by Means of Natural Orthogonal Components	3
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Kats, A.L. Utilizing Some Characteristics of the Conversion of Macroprocesses of Synoptic Seasons for Monthly Forecasting	32
Morskoy, G.I. Computation of Empirical Functions of the Importance for Forecasting of the Nonzonal Part of Mean Monthly Altitude Anomalies of 500 mb Isobaric Surfaces	40

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Problems in Long-Range (Cont.)

Rafailova, Kh.Kh. Application of the Regularities in the Change of
OT 500 Anomalies in Forecasting the Surface Baric Tendency Field of
1000 the Next Natural Synoptic Period 47

Bagrov, N.A. Analogy of Meteorological Fields and Evaluation of 56
Forecasts

Morskoy, G.I. Forecasting by Baric Topography Charts 69

AVAILABLE: Library of Congress

JA/cdw/jb
7-28-60

Card 3/3

KHRABROV, Yuriy Borisovich; KATS, A.L., otv.red.; BLINNIKOV, L.V..
red.; ZARKH, I.M., tekhn.red.

[Methods for compiling weather forecasts for three to seven
days] Metodika sostavleniia prognozov pogody na 3 - 7 dney.
Moskva, Gidrometeor. izd-vo, 1959. 181 p. (MIRA 12:7)
(Weather forecasting)

3(7)

SOV/50-59-5-1/22

AUTHOR:

Kats, A. L.

TITLE:

General Circulation Index as Indicator of Zonal and
Meridional Synoptic Processes
(Obshchiy indeks tsirkulyatsii kak pokazatel'
zonal'nykh i meridional'nykh sinopticheskikh protsessov)

PERIODICAL:

Meteorologiya i gidrologiya, 1959, Nr 5, pp 3-8 (USSR)

ABSTRACT:

In an earlier paper (Ref 1), the author suggested the method of a unified quantitative evaluation of the zonal (I_z) and meridional (I_m) circulation. The quantity of air participating in the zonal or meridional air exchange is determined by the meridional or zonal pressure gradients respectively. To analyze the change in the contributions of each of these components, it proved to be convenient to introduce a further characteristic, the general characteristic of the circulation. It either characterizes the ratio of intensity of the zonal to the meridional circulation (I), or of the meridional to the zonal circulation (I'). With the help of these characteristics, and on the basis of average data of many years for the northern hemisphere, it was possible to obtain

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General Circulation Index as Indicator of Zonal
and Meridional Synoptic Processes

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characteristics for the annual course of single components of the total circulation, their correlations and the changes in these characteristics with the change in latitude and height (Refs 2, 3). The most important conclusion in the analysis of the curves for the changes of the characteristics I_z , I_m and I in the course of many years is that all these curves show a considerable annual course which is analogous for all levels of the troposphere and depends on the change of the zonal and meridional temperature gradients. As on the northern hemisphere one and the other temperature gradients occur at the same time, there is a complicated correlation between zonal and meridional circulation. On the basis of only one component of the total circulation in the atmosphere, it is therefore not possible to obtain a proper idea of the real state of total circulation in the atmosphere, as well as of the question as to whether one or the other process is a meridional or a zonal one. This is explained here by means of data. It is shown that the general characteristic of circulation is more convenient

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in this respect. It is calculated in the form of

$$I' = \frac{I_m}{I_z} .$$

It is of importance that its amount is much

greater in the meridional synoptic processes than in the zonal ones. - It is shown that the value of $I' = 0.75$ may be regarded as a criterion: $I' < 0.75$... zonal, $I' \geq 0.75$... meridional synoptic processes. This criterion was checked for the time between 1953 and 1957, and proved to be correct. Besides these homogeneous zonal and homogeneous meridional synoptic processes, there are also heterogeneous processes (from 1938 to 1957, 23 % of all processes were heterogeneous). Among these occur processes with an intense meridional air exchange in the northern half of the zone when there are zonal processes in the southern half (10 %), and processes with intense meridional processes in the southern half of the zone with zonal processes in the northern half (13 %). The data obtained for 1938 - 1957 show that the homogeneous zonal circulation amounts to 41 %, the homogeneous meridional circulation to 36 %, and the

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General Circulation Index as Indicator of Zonal and
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heterogeneous mixed forms amount to 10 and 13 %. As the mixed forms are virtually forms of meridional circulation, the annual average amounts to 59 % of meridional, and 41 % of zonal processes. Finally, it is stated that the zonal and meridional processes can be objectively and accurately determined by the value of I'. There are 1 figure, 2 tables, and 4 references, 3 of which are Soviet.

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PHASE I BOOK EXPLOITATION

SOV/5148

Kats, Abram L'vovich

Sezonnyye izmeneniya obshchey tsirkulyatsii atmosfery i dolgoerochnyye prognozy
(Seasonal Changes in the General Circulation of the Atmosphere and Long-Range
Forecasting) Leningrad, Gidrometeoizdat, 1960. 269 p. Errata slip inserted.
3,000 copies printed.

Ed.: N.V. Sagatovskiy; Tech. Ed.: O.G. Vladimirov.

PURPOSE: This book is intended for scientific and technical personnel working
in the field of hydrometeorology, particularly in long-range hydrometeorological
forecasting.

COVERAGE: The book presents the results of long-range studies of the horizontal
components of general atmospheric circulation in the troposphere and the lower
stratosphere for the northern hemisphere. The characteristics of synoptic
processes in the Atlantic-Eurasian region are discussed and the seasonal char-
acteristics of mean long-range trends in general atmospheric circulation and
climate are analysed. Relationships between long-range changes in atmospheric

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Seasonal Changes (Cont.)

SOV/5148

circulation and solar activity are used to explain climatic variations during the last several decades, and to make forecasts of the climatic trends. The following scientists are mentioned: Professor G.Ya. Vangengeym, Candidate of Sciences T.P. Pokrovskaya, Professor Kh.P. Pogosyan, Professor S.P. Khromov, Doctor of Sciences N.A. Belinskiy, Doctor of Sciences G.D. Zubyan, Candidate of Sciences V.G. Shishkov, Candidate of Sciences V.M. Kurganskaya, Senior Technician Z.I. Raykova, Senior Technician G.N. Kochetova. There are 320 references: 237 Soviet, 26 German, 54 English, 2 Czech, and 1 French.

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KATS, A.L.; POGOSYAN, Kh.P.

"Fundamentals of long-range weather forecasting" by A.A. Girs.
Reviewed by A.L.Kats. Meteor. i gidrol. no.1:57-61 Ja '61.
(MIRA 14:1)

(Weather forecasting)

(Girs, A.A.)

KATS, A.L.

Characteristics of empirical influence functions in the Northern Hemisphere for 3-5 day forecasts of the baric field based on monotypic initial large-scale processes. Meteor. i gidrol. no.12: 15-22 D '61. (MIRA 14:11)

(Statistical weather forecasting)

BUGAYEV, V.A., prof.; KATS, A.L., doktor geograficheskikh nauk

Is the climate changing. Starsh.-serzh. no.1:38-39 Ja '62.
(MIRA 15:4)

1. Direktor TSentral'nogo instituta prognozov pogody (for Bugayev).
2. Nachal'nik sektora dolgosrochnykh prognozov pogody TSentral'nogo instituta prognozov pogody (for Kats).
(Climatology)

ASTAPENKO, P.D.; BEL'SKAYA, N.N.; BUSHUK, V.I.; BUSHUK, O.A.; GUROV, V.P.;
ZUBYAN, G.D.; KATS, A.L.; MININA, L.S.; MOROZKIN, A.A.; PAVLOVSKAYA,
A.A.; POGOSYAN, Kh.P.; SAMOYLOV, A.I.; SMIRNOV, P.I.; TARAKANOV,
G.G.; TURKETTI, Z.L.; CHERNOVA, V.F.; CHISTYAKOV, A.D;

[Synoptic atlas for schools] Uchebnyi sinopticheskii atlas. Pod
red. Kh.P.Pogosiana. 3, perer. i dop. izd. Leningrad, Gidrometeo-
izdat, 1962. 217 gold.col.maps. (MIRA 16:3)

___[Assignments for students] Zadaniia dlia uchashchikhsia. Pod
red. Kh.P.Pogosiana. 138 p. ___[Methodological instructions and
recommendations for teachers] Metodicheskie ukazaniia i rekomen-
datsii dlia prepodavatelei. Pod red. Kh.P.Pogosiana. 73 p.
(Meteorology—Charts, diagrams, etc.)

S/169/63/000/002/036/127
D263/D307

AUTHOR: Kats, A. I.

TITLE: Macrosynoptic studies of the overall atmospheric circulation and long range forecasts

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 2, 1963, 43-44, abstract 2B296 (Tr. 1-y Nauchn. konferentsii po obshch. tsirkulyatsii atmosfery, 1960, M., Gidrometeoizdat, 1962, 3-12)

TEXT: A brief review of macrosynoptic studies of the overall atmospheric circulation, carried out over the past 20 years in the USSR and abroad. Systematization and generalization of observations up to 20 - 30 km over the northern (and partly over the southern) hemisphere allowed a definition of long-term characteristics of air movements in the various layers of the troposphere and lower stratosphere, a determination of the characteristic features of the effect of thermobaric fields and temperature differences in the troposphere on the peculiarities and geographic localization of

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Macrosynoptic studies of ...

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cyclonic activity, a determination of the occurrence of cyclones and anticyclones, a demonstration of seasonal deformations of the westerly transport in the troposphere under the influence of temperature differences between land masses and oceans, and an explanation of these deformations from a quantitative analysis of thermodynamic and hydrodynamic equations. Spatial characteristics of current flows, their connection with atmospheric fronts and various macroprocesses, their nature and the mechanism of their evolution were studied. No generally accepted theory has, however, as yet been proposed concerning the formation and evolution of current flows. Statistical and theoretical studies showed that the climatic high pressure zones in the subtropics are not the result but the cause of the trade winds. The more important horizontal nonuniformities of the troposphere and the stratosphere were discovered. Considerable contributions to the study of overall circulation were made by works on the geographic distribution of monsoons, although no generally accepted scheme as yet exists of the whole complex of phenomena connected with the circulation of monsoons. Successes in the study of overall atmospheric circulation have still not led to

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reliable methods of long range weather forecasting. The reasons for this are insufficient study of the whole problem and the absence of overall schemes describing the circulation. An account is given of the problems of overall circulation studies, directed towards the resolution of the whole question and improvement in the reliability of long range weather forecasts. One of the more important problems is the convergence of general circulation studies with the needs of long range forecasting, and bringing these studies to definite prognostic conclusions. The greatest possibilities are believed to lie in the dynamic and meteorological study of the overall circulation, using hydrodynamic methods for the calculation of long range forecasts with the aid of rapid electronic computers. / Abstracter's note: Complete translation. /

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S/169/63/003/003/027/062
D263/J307

AUTHOR: Kats, A.L.

TITLE: Multiyear changes of overall atmospheric circulation and some aspects of long-range weather forecasting

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 5, 1965, 59, abstract 3B227 (Tr. 1-y Nauchn. konferentsii po obshch. tsirkulyatsii atmosfery, 1960, M., gidrometeoizdat, 1962, 78-84)

TEXT: Some results are given of the studies of overall atmospheric circulation in the zone 35-70°N by means of quantitative parameters (indices of zonality (I_z) and meridionality (I_m) and also the ratio $I' = I_m/I_z$, characterizing the disturbability of the zonal current) allowing an objective classification of macroprocesses according to the intensity and form of circulation. The author observes the general character of the changes of I_z and I_m over a year, at all levels of the troposphere and the lower atmosphere, and the differences in the intensity and amplitudes of these changes. Cir-

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Multiyear changes ...

S/169/63/000/003/027/042
D263/0307

circulation indices allow an objective classification of macroprocesses into zonal and meridional, and permit 2 new qualitative parameters N_1 and N_2 to be obtained, (nos. of days with meridional and zonal air-exchanges for given intervals of time). A short character. is given of the intensity of zonal and meridional air-exchanges at heights of up to 16-19 km, for various zones of the northern hemisphere, as well as an analysis of the values of I_z , I_m , I' and I_m from multiyear data. With the aid of circulation indices it was possible to separate 4 main forms of meridional macroprocesses in dependence on the geographic localization of the disturbances by the global height of the frontal zone, to obtain certain climatic characteristics (temperature, precipitation) of zonal and meridional processes of various forms for various regions of European USSR and Western Siberia, to elucidate seasonal peculiarities of the distribution of temperature anomalies of various signs, etc. The combination of circulation indices is currently used in the search for prognostic symptoms of the transformations of macroprocesses, 3-10 days and longer periods ahead.

[Abstracter's note: Complete translation]

Card 2/2

POGOSYAN, Kh.P., nauchnyy red.; KATS, A.L., nauchnyy red.; KHRABROV, Yu.B., nauchnyy red.; USMANOV, R.F., nauchnyy red.; BLINNIKOV, L.V., red.; ZARKH, I.M., tekhn. red.

[Transactions of the First Conference on General Atmospheric Circulation, March 14-18, 1960] Trudy Nauchnoy konferentsii po voprosam obshchey tsirkulyatsii atmosfery. 1st, Moscow. Moskva, Gidrometeoizdat (otdelenie) 1962. 231 p.

(MIRA 16:4)

1. Nauchnaya konferentsiya po voprosam obshchey tsirkulyatsii atmosfery. 1st, Moscow, 1960. 2. Tsentral'nyy institut prognozov, Moskva (for Pogosyan, Kats, Usmanov).
(Atmosphere)

KATS, A. L.; BEDRINA, V. S.; POZDNYAKOVA, V. A.

Use of empirical influence functions to forecast changes in pressure for 3 to 5 days from the resulting monotype macro-processes. Trudy TSIP no. 1193-23 '62. (MIRA 16:1)

✱ (Atmospheric pressure)

KATS, A. I.; KHRABROV, Yu. B.; FEDULOVA, M. N.; YAKUSHEVA, O. M.

Use of empirical influence functions to forecast mean values
of H_{500} at the present time and the tendency for the subsequent
synoptic period. Trudy TSIP no. 119:24-35 '62. (MIRA 16:1)

(Atmospheric pressure)

KATS, A.L.

Exchange of air in the tropical zone and its relation to general
atmospheric circulation. Meteor. i gidrol. no. 2:3-14 F '63.
(MIRA 16:2)

1. Tsentral'nyy institut prognozov.
(Tropics--Winds)

KATS, A.L., doktor geograf.nauk; KNYAZEVA, V.I.; TOKUNOVA, A.I.

Objective forecasting of the mean value of H₅₀₀ of the
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AUTHOR: Kats, A. L. (Doctor of geographical sciences)

TITLE: Biennial cyclicity in the equatorial stratosphere and the general circulation of the atmosphere

SOURCE: Meteorologiya i gidrologiya, no. 6, 1964, 3-10

TOPIC TAGS: atmosphere, stratosphere, wind direction

ABSTRACT: High radio soundings from ships during Soviet expeditions (1960-62) have shown that seasonal and nonperiodic fluctuations occur in addition to biennial cycles. Different averaging of data on wind leads to smoothing of what is, in fact, more complex vertical structure in the zonal components of circulation of the troposphere and lower stratosphere in equatorial and tropical latitudes. Data from the indicated expeditions show that, except for east to west combinations, recurrence of more complex combinations increases in the equatorial zone, decreases away from this zone. It is understood that interaction of processes of both hemispheres occurs in the equatorial zone. The author discusses global circulation in the stratosphere, considering dominant eastern and western trends in the equatorial zones that derive from dominant circumpolar cyclonic winds in winter and

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from anticyclonic winds in summer. In the transition from winter to summer circulation (and the reverse), the eastward current is more intense and persistent and may disturb the biennial cyclicity. The author discusses conditions for establishing a well-defined westward current in the equatorial zone. He points out the existence of a real connection between biennial cyclical variations of zonal currents in the equatorial zone and global circulation, at least in the stratosphere, and also in the troposphere. Winter months with a dominant westerly equatorial stratospheric current developing after winter months with an easterly current must be characterized by relatively higher pressures in high latitudes and by a considerable weakening in zonal circulation and a relative increase in meridional circulation in the middle latitudes. The reverse is true when easterly circulation is established after months of westerly current. Orig. art. has: 3 figures and 2 tables.

ASSOCIATION: Tsentral'nyy institut prognozov (Central Forecasting Institute).

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